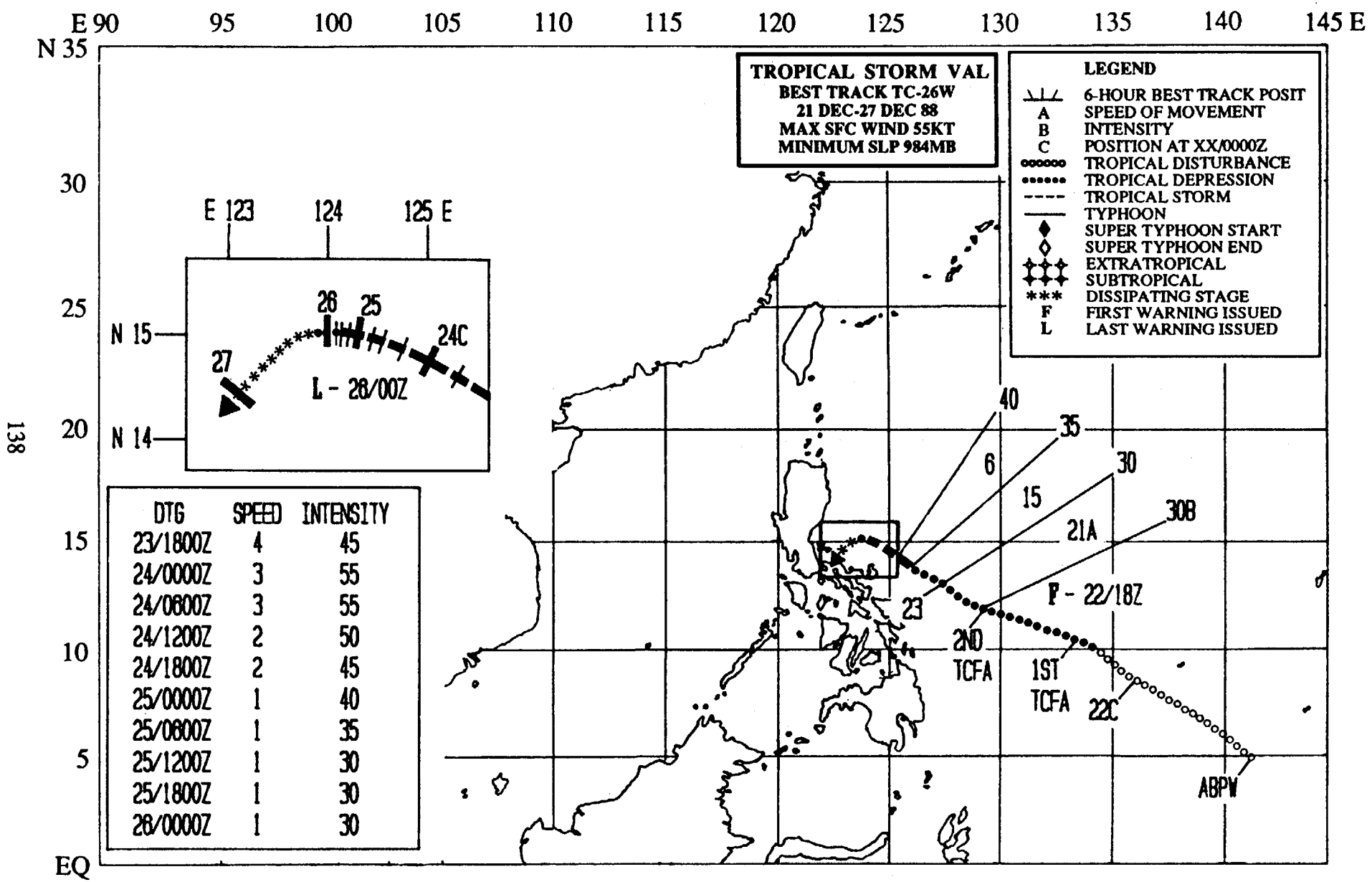
E 90
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138
TROPICAL STORM VAL
BEST TRACK TC-26W
21 DEC-27 DEC 88
MAX SFC WIND 55KT
MINIMUM SLP 984MB
LEGEND
6-HOUR BEST TRACK POSIT
A SPEED OF MOVEMENT
B INTENSITY
C POSITION AT XX/0000Z
TROPICAL DISTURBANCE
TROPICAL DEPRESSION
TROPICAL STORM
TYPHOON
SUPER TYPHOON START
SUPER TYPHOON END
EXTRATROPICAL
SUBTROPICAL
*** DISSIPATING STAGE
F FIRST WARNING ISSUED
L LAST WARNING ISSUED
E 123
124
125 E
N 15
N 14
26
25
24C
27
L - 28/00Z
40
35
30
6
15
21A
30B
F - 22/18Z
23
2ND TCFA
1ST TCFA
22C
ABPW
DTG SPEED INTENSITY
23/1800Z 4 45
24/0000Z 3 55
24/0600Z 3 55
24/1200Z 2 50
24/1800Z 2 45
25/0000Z 1 40
25/0600Z 1 35
25/1200Z 1 30
25/1800Z 1 30
26/0000Z 1 30

TROPICAL STORM VAL (26W)

Tropical Storm Val (26W) was the final significant tropical cyclone of 1988 and the only storm to develop during December. It proved difficult to position and hard to forecast. In less than 24-hours, Val decelerated from a 25 kt (46 km/hr) to quasi-stationary. Also, the system's cirrus outflow prevented timely detection of shearing and decoupling of the low-level circulation center from the central convection.

On 13 December a massive outbreak of polar air started to push southeastward from Asia across the Philippine Sea. By 18 December the leading edge of the air mass stretched from the southern Philippine Islands to the northern Marianas and northeastward. As the major thrust of the cold air diminished, the southern Philippine Sea filled with deep convection and a near-equatorial trough formed. Multiple low-level cyclonic circulations appeared in the trough with nearby gales to the north due to the strong northeast monsoon. Finally, the convection began to consolidate in the western Caroline Islands and the area was initially mentioned at 210600Z on the Significant Tropical Weather Advisory. The convection continued to organize and a Tropical Cyclone Formation Alert was issued at 220700Z based on satellite imagery that indicated an increase in upper-level organization. Plus, surface synoptic reports revealed pressures as low as 1005 mb and 20 kt (10 m/sec) westerly winds to the south of the circulation center.

A second Alert was issued at 221800Z to cover the unusually rapid movement — 25 kt (46 km/hr) — of the circulation to the west. Still, the area (Figure 3-26-1) developed, and the upper-level outflow and surface circulation

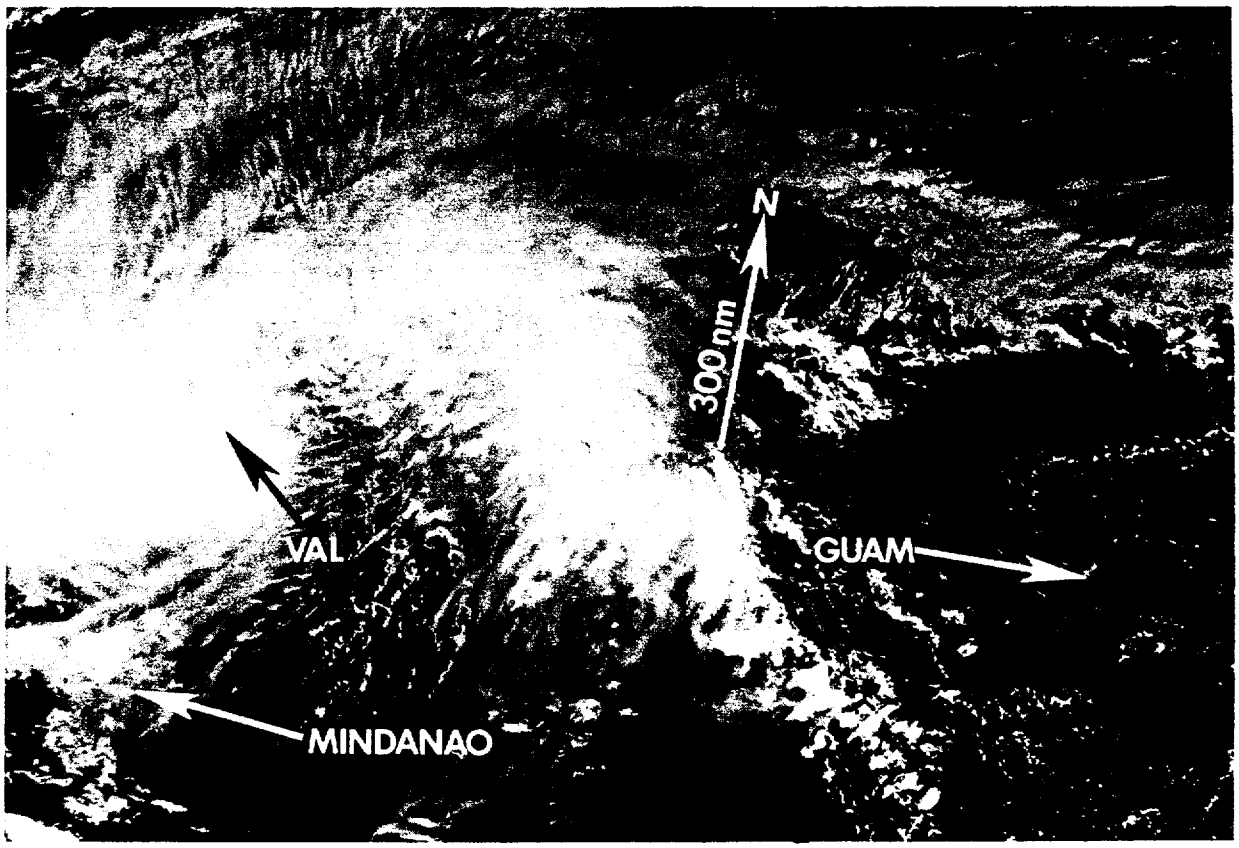

Figure 3-26-1. Val with its major convective band (230429Z December NOAA visual imagery).

improved. The first warning followed close behind with a valid time at 221800Z based on a satellite intensity analysis estimate of 30 kt (15 m/sec). Then Val (26W) began to decelerate and intensify. It reached a peak intensity of 55 kt (28 m/sec) at 240000Z (Figure 3-26-2).

As the intensity peaked and forward motion ground to a halt on 24 December, high cloudiness obscured the low-level circulation center. The deep central convection and upper-level circulation center, which were the targets for remote sensing, tracked northward. The shallow system (Figure 3-26-3) continued to weaken and the final warning was issued at 260000Z. The dissipating low-level circulation center accelerated to the southwest along the eastern boundary of the northeast monsoon. No reports of damage or loss of life were received.

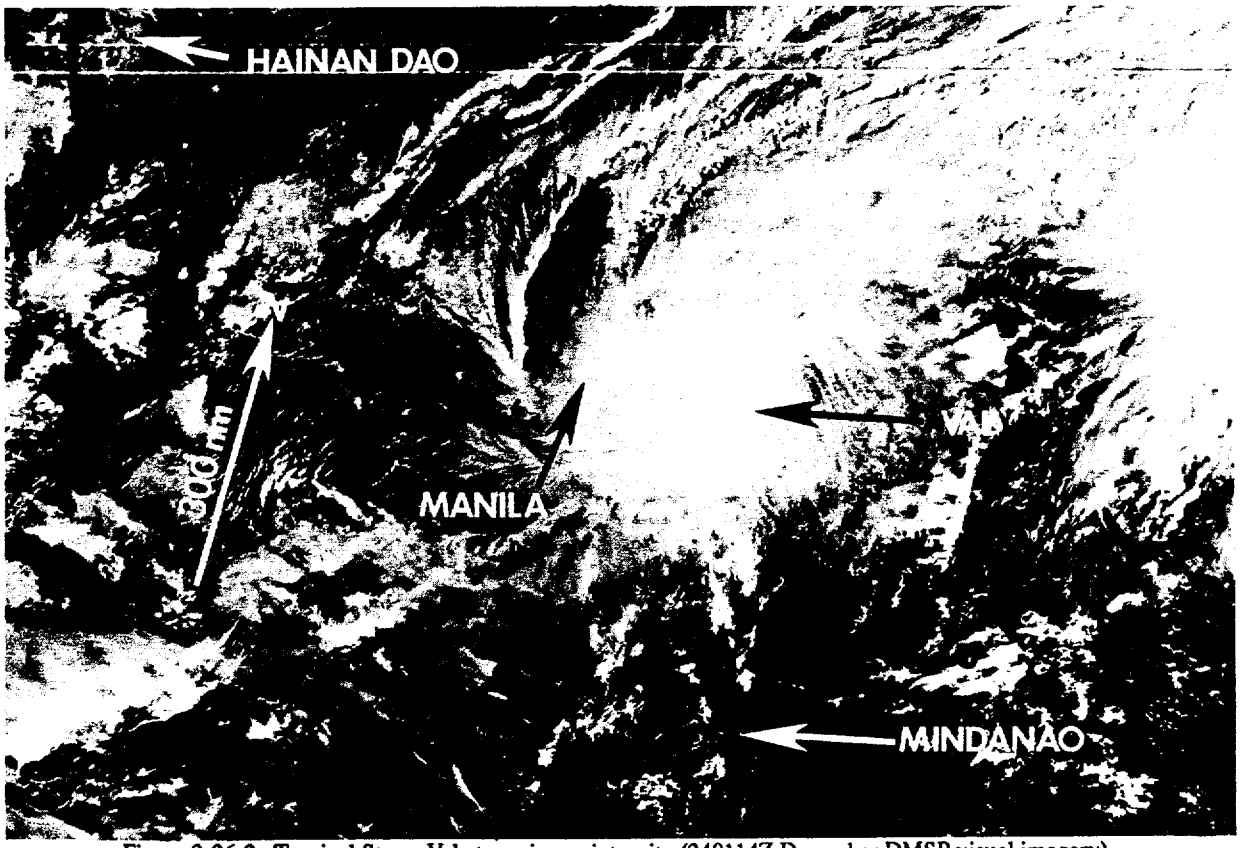

Figure 3-26-2. Tropical Storm Val at maximum intensity (240114Z December DMSP visual imagery).

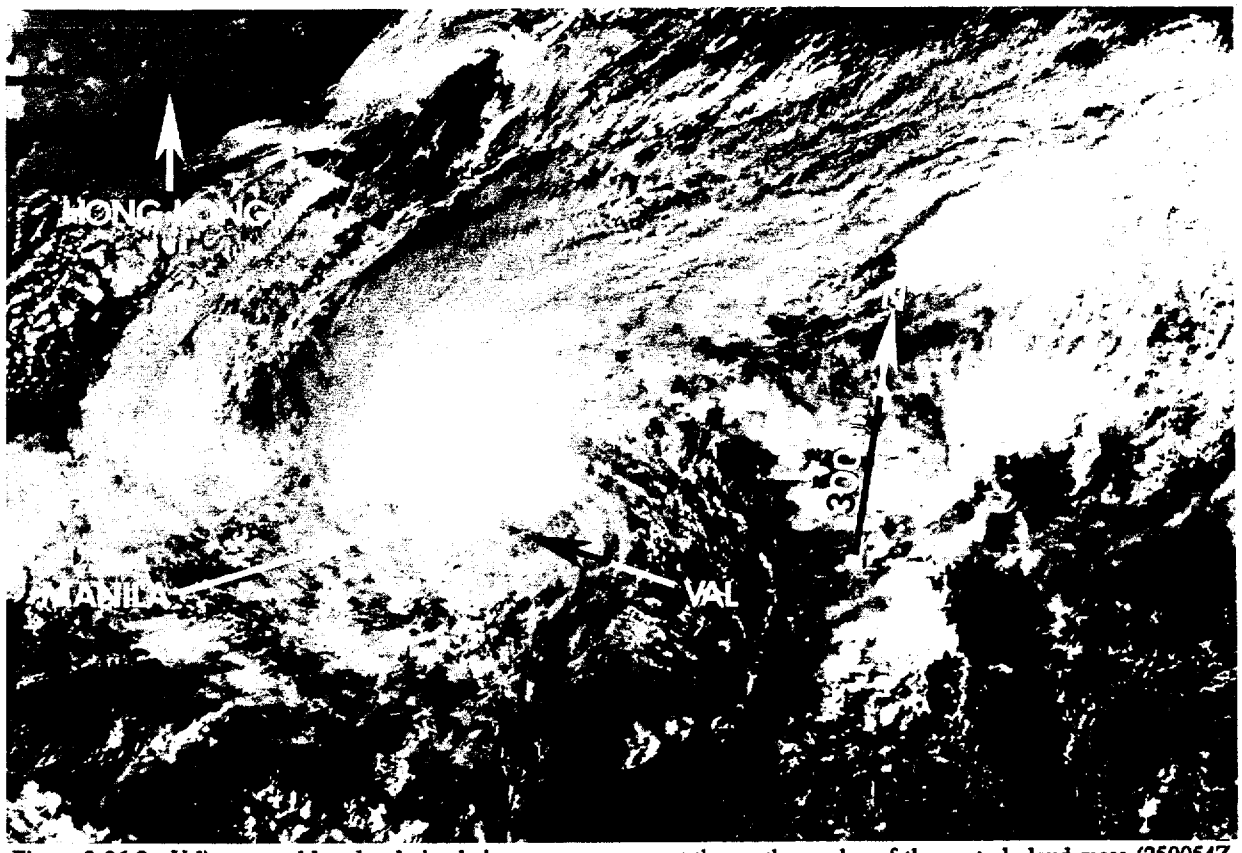

Figure 3-26-3. Val's exposed low-level circulation center appears at the southern edge of the central cloud mass (250054Z December DMSP visual imagery).